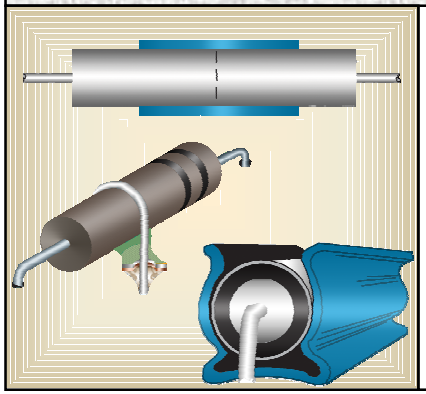
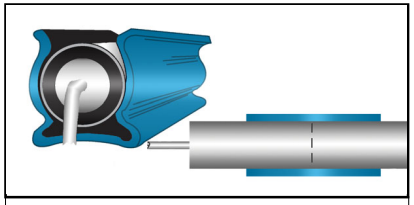
THROUGH-HOLE SOLDERING
MECHANICAL ASSEMBLY – COMPONENT SUPPORT, MECHANICAL



MECHANICAL ASSEMBLY
COMPONENT SUPPORT, MECHANICAL

Components weighing 7 grams (0.25 oz.) total, or 3.5 grams (0.12 oz.) per lead, shall be provided mechanical support, and be bonded to the mounting surface to prevent vibration damage and to improve thermal management. Mechanical support (i.e.: fasteners, through-bolts, clips, etc.) can be used to satisfy this requirement, especially in applications where polymeric staking and bonding methods would not provide satisfactory results.

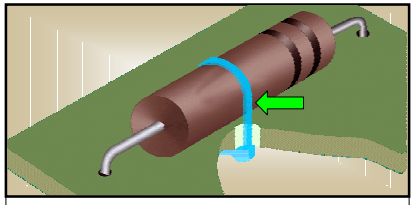
See Section 6.01 “Through-Hole Soldering, General Requirements”, for common accept / reject criteria.



ACCEPTABLE
AXIAL COMPONENT CLIP

Component is properly inserted in the clip, and leads exhibit proper bend radius and strain relief. Spacing between lands and uninsulated component body meet or exceed minimum electrical clearance.

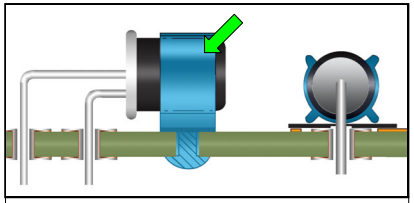
Best Workmanship Practice



ACCEPTABLE
CABLE TIE HOLD DOWN

The cable tie is approximately centered, smoothly dressed, and is holding the component firmly in place without deforming the case. The component does not exhibit any damage. Not recommended for high heat environments.

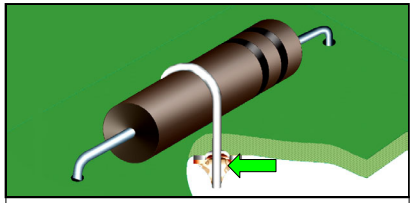
Best Workmanship Practice



ACCEPTABLE
RADIAL COMPONENT CLIP

Component is properly inserted in the clip, and leads exhibit proper bend radius and strain relief. Spacing between lands and the uninsulated component body or clip meet or exceed minimum electrical clearance.

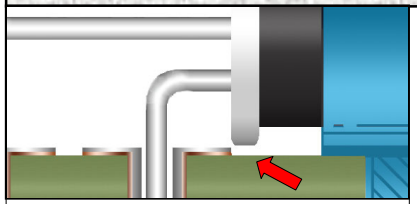
Best Workmanship Practice



ACCEPTABLE
WIRE HOLD DOWN

The hold down wire is approximately centered, smoothly dressed, does not violate minimum electrical clearance requirements, and is holding the component firmly in place. The component does not exhibit any damage.

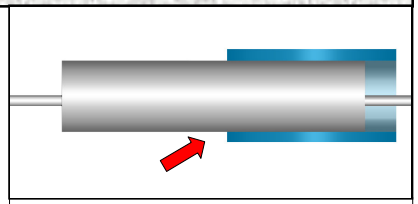
Best Workmanship Practice



UNACCEPTABLE
IMPROPER ELECTRICAL CLEARANCE

Spacing between the land and the uninsulated component body is less than the specified minimum electrical clearance.

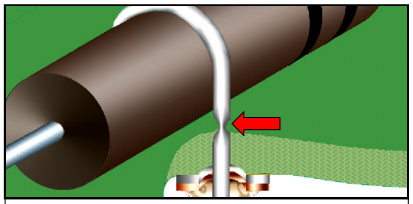
Best Workmanship Practice



UNACCEPTABLE
IMPROPER POSITIONING

The component is not properly positioned in the mounting hardware, which reduces the effectiveness of the support, and may result in unwanted movement and stress on the solder terminations.

Best Workmanship Practice



UNACCEPTABLE
KINKED HOLD-DOWN WIRE

The hold-down wire exhibits a kink, which may reduce the strength and reliability of the wire, possibly resulting in breakage. A kink against the component body may result in component damage or failure.

Best Workmanship Practice